

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

MARCH 2016

This update is funded by the National Marine Sanctuary Foundation in partnership with NOAA's Ocean Exploration and Research Program, with additional support from the National Marine Protected Areas Center, to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs.

Please share this email with your colleagues and constituents. If you request materials or respond to a request for information, please mention that you learned about it from NOAA's Information Exchange.

The information included here has been compiled from many different sources, including EE-NEWS@NAAEE, EEinGEORGIA, the Scout Report, scuttlebutt, NSTA Express, and others. We have verified web addresses, but make no guarantee that they will remain active. The Department of Commerce/NOAA does not necessarily endorse or promote the views or facts presented on these sites.

To subscribe or unsubscribe to this list, send information to include in the newsletter, or discuss further enhancements, please contact the editor directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074

Collected archives and issues of the newsletter, past and present, are available at <http://marineprotectedareas.noaa.gov/resources/education/>.

NOTABLE REFERENCES

Fish Carbon

Check out this fairly new idea in the field of climate change mitigation: fish carbon. The report - "Fish Carbon: Exploring Marine Vertebrate Carbon Services" - highlights the direct relevance of marine vertebrates to climate change mitigation via an array of natural mechanisms. Some mechanisms cited include whale pump, twilight zone carbon, and more.

<http://www.grida.no/publications/fish-carbon/>

Enforcement of Nearshore Artisanal Fisheries

WildAid and The Nature Conservancy have published a guide to help resource managers design cost-effective enforcement strategies for nearshore artisanal fisheries.

The guide discusses different enforcement systems, intervention tools, outreach methods, and performance indicators.

<http://wildaid.org/sites/default/files/resources/Nearshore%20Artisanal%20Fisheries%20Enforcement%20Guide.pdf>

CHALLENGE OF THE MONTH

Service Year + Higher Ed Innovation Challenge

Service Year Alliance is challenging higher education institutions to creatively integrate learning with service years into the college experience. All post-secondary education institutions are eligible. The deadline for entry is March 11, 2016.

<http://www.sychallenge.org/>

WEBSITES OF THE MONTH

Curriculum Collections

The Curriculum Collections from the American Museum of Natural History offers activities, articles, videos and more. Topics include biodiversity, deep sea vents, polar climate change, and much more. Check these out, and be sure to further explore the full AMNH website.

<http://www.amnh.org/explore/curriculum-collections>

Sea Earth Atmosphere: Educational Resources

These educational resources from NOAA offer lessons, visualizations, interactive games, and much more. The materials can be viewed by grade level or by media type. The Lessons topics include Island Formations, Ocean Geography and Geology, and many more. Each lesson features a descriptive introduction that outlines the approach and learning goals, clarity about the targeted age group, reference to National Standards, and more.

<https://coast.noaa.gov/psc/sea/>

A Visual Glossary of Ocean Terminology

This Cartoon Crash Course offers a visual glossary of ocean terminology. The Pew Charitable Trusts joined forces with cartoonist Jim Toomey (the artist behind "Sherman's Lagoon") on 10 animated videos that explain complicated concepts that guide efforts to protect our oceans.

<http://www.pewtrusts.org/en/research-and-analysis/collections/2016/01/cartoon-crash-course-a-visual-glossary-of-ocean-terminology>

REQUESTS

Request for Chapter Proposals

Marine science education practitioners and researchers are invited to submit chapter proposals for an upcoming Springer Publications edited book, Exemplary Practices in Marine Science Education: A Resource for Practitioners and Researchers. Chapter authors involved in Ocean Literacy from across the globe are invited to share their exemplary best practices in marine science education. Note that lesson plans are not of interest. The deadline for submission is March 31, 2016.

Contact Geraldine Fauville at geraldine.fauville@gu.se

GRANTS AND OPPORTUNITIES

Braitmayer Foundation Grants

The Braitmayer Foundation offers grants to fund a broad range of K-12 education programs with curricular reform initiatives and professional development opportunities for teachers, particularly those which encourage people of high ability and diverse background to enter and remain in K-12 teaching. The deadline for Letters of Inquiry is March 15, 2016.

<http://www.braitmayerfoundation.org/how-to-apply/>

Coastal Marine Science Competition – North Carolina

The North Carolina Coastal Marine Science Competition is a free online science competition for middle and high school students in North Carolina. The deadline for submission is April 1, 2016.

<https://www.sites.google.com/site/msepcompetition/>

Discovery Education 3M Young Scientist Challenge

Discovery Education 3M challenges students in grades 5-8 to make a short video describing a new innovation or solution that could solve or impact an everyday problem. The deadline for entry is April 20, 2016.

<http://www.youngscientistchallenge.com/>

Dorothy Stout Professional Development Grants

The National Association of Geoscience Teachers awards grants to K-12 teachers and faculty and students at two-year colleges. The grants support professional growth in, or classroom teaching of, Earth science. The deadline for application is April 15, 2016.

<http://www.nagt.org/nagt/programs/stout.html>

Environmental Education Grant

The EPA is seeking grant proposals from eligible applicants to support locally focused environmental education projects that promote environmental stewardship and help develop knowledgeable and responsible students, teachers, and citizens. The deadline for application is April 8, 2016.

<http://www.epa.gov/education/environmental-education-ee-grant-solicitation-notice>

Gloria Barron Prize for Young Heroes

The Gloria Barron Prize recognizes young people, ages 8-18, who have shown leadership and courage in public service to people and the planet. The deadline for nomination is April 15, 2016.

<http://barronprize.org/>

IdeaGist Global 100 Competition

High school students are invited to submit innovative, low cost ideas to combat climate change. The deadline for submission is April 30, 2016.

<https://global100.ideagist.com/>

Kars4Kids Grants

Kars4Kids funds educational and youth programs in communities across North America. They accept submissions directly from organizations and from individuals on behalf of charities they recommend.

<http://www.kars4kidsgrants.org/>

Kids to Parks Day National School Contest

The National Park Trust will provide 100 under-served schools with grants for an outdoor park experience of their own design at a local, state, or national park.. Hurry - the deadline for entry is March 4, 2016.

<http://parktrust.org/school-contest>

Mary Fran Myers Scholarship

The Mary Fran Myers Scholarship offers recipients financial support to attend the 2016 Natural Hazards Center Research and Applications Workshop, July 10-13, 2016 in Broomfield, Colorado. The deadline for application is April 2, 2016.

<https://hazards.colorado.edu/article/apply-now-for-the-mary-fran-myers-scholarship>

NAI Awards

The National Association for Interpretation offers a variety of professional and interpretive awards. The deadline for nomination is May 31, 2016.

http://www.interpnet.com/NAI/interp/Resources/Awards_Programs/Professional_Awards/nai_resources/Professional_Awards.aspx

NMEA Scholarships

NMEA offers three different types of scholarships for the 2016 NMEA conference, June 27-30, 2016 in Orlando, Florida: NMEA member-only scholarships, Expanding Audiences scholarships, and Traditional Knowledge scholarships. The deadline for application is March 15, 2016.

<http://www.marine-ed.org/?page=scholarships>

Recreational Trails Awards

The Coalition for Recreational Trails sponsors the Annual Achievement Awards to recognize outstanding trail projects funded by the Recreational Trails Program. Categories include Education & Communication; Youth Conservation/Service Corps and Community Outreach; and more. The deadline for nomination is April 4, 2016.

<http://www.americantrails.org/awards/CRTawards.html>

ROV Competition – North Carolina

The Center for Marine Sciences and Technology Sea Wolf program and the Burroughs Wellcome Fund Coastal Science Inquirers have teamed up for this ROV competition for students ages 11-16, April 16, 2016 in Morehead City, North Carolina.

Contact Dr. Pat Curley at pwcurley@ncsu.edu

Science Club Challenge

SciFri's Science Club challenges participants to go out, do science, and share it with others. Twice a year they offer a new challenge to build something, investigate a question, or more. Using e-mail or social media, participants share their discoveries with others. Check out the current challenge to invent a new mode of communication.

<http://www.sciencefriday.com/educational-resources/the-science-club-messagechallenge/>

Science Without Borders Challenge 2016

Khaled bin Sultan Living Oceans Foundation's Science without Borders® Challenge is an international art competition that engages students to promote the need to preserve, protect, and restore the world's oceans and aquatic resources. The theme for the 2016

challenge is Fishing Under the Radar. Students, ages 11-19, use their artistic talents to create a piece of art that illustrates illegal, unreported, and unregulated fishing. The deadline for entry is April 25, 2016.

<http://www.livingoceansfoundation.org/education/science-without-borders-challenge/>

Sea Grant Aquaculture Research Program

This aquaculture research competition supports the development of environmentally and economically sustainable ocean, coastal, or Great Lakes aquaculture. The deadline for pre-proposals is March 10, 2016.

<https://caseagrant.ucsd.edu/grants-and-funding/noaa-sea-grant-aquaculture-research-program>

Special Focus Awards – California

The California Sea Grant College Program is soliciting pre-proposals for its special focus awards in California. Focus areas include Healthy Coastal and Marine Ecosystems, Resilient Coastal Communities, and Safe and Sustainable Fisheries & Seafood Supply. The deadline for pre-proposals is March 31, 2016.

<https://caseagrant.ucsd.edu/grants-and-funding/call-for-preliminary-proposals-2017>

State-Fish Art Project

The Wildlife Forever State-Fish Art Project challenges young artists to create an illustration of their state fish and a written composition on its behavior, habitat, and efforts to conserve it. The Fish On! Lesson Plan is written for educators teaching grades four through twelve. The deadline for entry is March 31, 2015.

<http://www.wildlifeever.org/contest/details>

Stockholm Junior Water Prize

The Stockholm Junior Water Prize is a youth award for a water-related science project. High school students submit their research papers online. As a first step, state winners and their science teachers win a trip to the U.S. competition in Virginia. The deadline for entry is April 15, 2016.

<http://www.wef.org/sjwp/>

Student Grants-in-Aid of Caribbean Marine Research

The AMLC Student Grants-in-Aid of Caribbean Marine Research Program supports student research and increased collaboration and diffusion of knowledge among the member institutions of the Association of Marine Laboratories in the Caribbean.

Preference will be given to proposals that involve comparisons or collaboration among AMLC institutions. The deadline for application is April 1, 2016.

<http://www.amlc-carib.org/awards/grants.html>

Trails Annual Achievement Awards

The Coalition for Recreational Trails sponsors the Annual Achievement Awards to recognize outstanding trail projects funded by the Recreational Trails Program. Check out the web pages for the previous winners in your state, and nominate your success story. The deadline for nomination is April 4, 2016.

<http://www.americantrails.org/awards/CRTawards.html>

Voya Unsung Heroes Awards

The Voya Unsung Heroes program helps K-12 educators and their schools fund innovative classroom projects. The deadline for application is April 30, 2016.

<https://unsungheroes.scholarshipamerica.org/>

Wetland Mitigation Banking Funding

The USDA's Natural Resources Conservation Service is requesting proposals to establish wetland mitigation banks. Funds for this grant are competitively awarded to federally recognized Indian Tribes; state and local units of government; for-profit entities; and nongovernmental organizations. The deadline for submission is March 18, 2016.

<http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmland/?cid=nrcseprd362686>

Youth Birding Scholarships

The American Birding Association offers scholarships to help young people attend bird-related summer camps, workshops, training programs, conventions, and other activities. The deadline for submission is April 1, 2016.

<http://youngbirders.aba.org/scholarships>

FELLOWSHIPS, INTERNSHIPS, AND TEMPORARY OPPORTUNITIES

Atlas Corps Fellowships

Atlas Corps seeks nonprofit/NGO professionals from around the world to apply for fellowships in the U.S. The 6-18 month professional fellowship participants learn best practices, build organizational capacity, and return home to create a network of global leaders. See the website for details. The priority deadline for application is March 10, 2016.

<http://atlascorps.org/apply.php>

Catalina Summer Science Camp - California

The University of Southern California's Sea Grant Program, the Center for Dark Energy Biosphere Investigations and USC Wrigley Institute seek high school students wanting to explore the Earth's ocean, the deep ocean, and life below the ocean floor, July 7-13, 2016 on Catalina Island. Underrepresented students are encouraged to apply, with preference to first in family to go to college. The program is free. The deadline for application is March 25, 2016.

<https://dornsife.usc.edu/uscseagrant/summer-science-programs/>

Common Tides

Common Tides provides free marine science and sailing programs to students in developing countries and communities in order to inspire stewardship, learning, and environmental awareness. This education non-profit is accepting participants for upcoming 4- and 7-week trips to St. Thomas, U.S. Virgin Islands. The deadline for application is March 15, 2016.

<http://www.commontides.org/>

Educator/Outreach Officer on Joides Resolution

Applications are now being accepted for five upcoming expeditions on the scientific ocean drilling vessel, *JOIDES Resolution*. They seek both classroom and informal educators and outreach/science communicators, including artists, videographers, and more. The deadline for application is March 10, 2016.

<http://joidesresolution.org/node/453>

Environmental Education Internship - Alabama

The Dauphin Island Sea Lab is looking for an undergraduate intern from minority groups currently under-represented in marine science and environmental education, for a paid internship, June 2-August 4, 2016 on Dauphin Island, Alabama. See the website for complete details.

<http://www.disl.org/educational-programs/internship-opportunities-in-environmental-education/>

Laureate Global Fellowship

The Laureate Global Fellowship from the International Youth Foundation recognizes 20 young leaders, ages 18-29, from around the world who have pioneered solutions to challenges in their communities and beyond. The deadline for application is March 13, 2016.

<http://www.youthactionnet.org/apply>

Mickey Leland Environmental Internship Program - Texas

The Mickey Leland Environmental Internship Program at the Texas Commission on Environmental Quality is a paid, full-time summer internship for undergraduates and graduates. The deadline for application is March 11, 2016.

<http://www.tceq.texas.gov/adminservices/employ/mickeyleland/>

Service and Community Leadership Internships – Washington, D.C.

The Institute on Philanthropy & Voluntary Service is an academic internship program in Washington, D.C. for undergraduate students active in service and leadership on their campuses and in their communities. Scholarships are awarded based on need and merit with over 70% of students receiving funding. The deadline for application is March 16, 2016.

<http://www.dccinternships.org/?programs=philanthropy-and-voluntary-service&details=true>

Summer Opportunity AmeriCorps

The Corporation for National & Community Service and the National Summer Learning Association will support college scholarships to launch Summer Opportunity AmeriCorps. This program will help young people, including high school students, who serve their communities earn money for college. Sign up for information on the website.

<http://www.nationalservice.gov/programs/ameri-corps/summer-opportunity-ameri-corps>

Teacher at Sea

NOAA's Cordell Bank and Greater Farallones National Marine Sanctuaries and Point Blue Conservation Science seek a teacher to join the science team and learn about the offshore ecology in Cordell Bank and Greater Farallones National Marine Sanctuaries, May 13-22, 2016. The teacher will assist in daily operations onboard the *R/V Shimada* and stay with the team on the research vessel. Travel and food stipend is included in this opportunity. The deadline for application is March 11, 2016.

<http://cordellbank.noaa.gov/education/teachatsea2016.html>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Climate Science in the Classroom - Online

The half-day virtual conference from NSTA and NOAA, Climate Science in the Classroom, March 12, 2016, will feature climate scientists and education specialists who will share both their knowledge about climate science as well as classroom-ready resources that educators can use with their students.

http://learningcenter.nsta.org/products/online_courses/VC_160312.aspx

Florida Ecosystems in an Era of Rapid Change - Florida

This workshop from the University of Florida Center for Precollegiate Education and Training, Florida Ecosystems in an era of Rapid Change – What Sustains Us, will be held June 20-24, 2016 in Gainesville, Florida. The workshop brings perspectives from the humanities into dialogue with current research in ecosystem science. Support is provided by the Florida Humanities Council. See the website for complete details.

<http://www.cpet.ufl.edu/teachers/florida-ecosystems-in-an-era-of-rapid-change/>

InterpTech: A Conference on Technology for Interpreters - California

This conference highlights effective ways to implement innovative technology to improve interpretation. The National Association of Interpreters and California State Parks offer InterpTech April 24-27, 2016 in Pacific Grove, California, focusing on leading edge technologies including virtual and augmented reality, mobile app development, online programs, social media strategies, and digital media production.

http://www.interpnet.com/NAI/nai/_events/InterpTech_Conference.aspx

Lost Whaling Fleets of the Western Arctic - Online

This NOAA webinar, March 10, 2016 will explore how archaeologists discovered the battered hulls of two nineteenth century whaling ships nearly 144 years after they sank off the Arctic coast of Alaska. The shipwrecks, and parts of other ships, that were found are most likely the remains of 33 ships trapped by pack ice close to the Alaskan Arctic shore in September 1871.

<https://attendee.gotowebinar.com/register/5479241746917913857>

NAI National Conference Call for Presentations

The 2016 Annual Conference of the National Association for Interpretation will be held November 8-12, 2016 in Corpus Christi, Texas. The deadline for proposals is April 17, 2016.

http://www.interpnet.com/NAI/interp/Events/NAI_National_Workshop/nai/_events/NAI_National_Workshop.aspx

National Marine Sanctuaries Webinar Series - Online

Join sanctuary educators for this webinar series covering topics from albatrosses to shipwrecks and more. The webinars provide educators with educational and scientific expertise, resources, and training to support ocean and climate literacy in the classroom. Check out Winged Ambassador (March 24, 2016), Great Ships, and much more. If you are unable to join the live webinars, they are archived for future viewing.

<http://sanctuaries.noaa.gov/education/teachers/webinar-series.html>

<https://attendee.gotowebinar.com/register/5820997448738447874>

Ocean Exploration Workshops – Louisiana

NOAA's Ocean Exploration Program offers the Okeanos Explorer Education Materials Collection Professional Development Workshops for Educators June 15, 2016 with the Audubon Aquarium of the Americas and hosted by the Science and Technology Education Center Louisiana Tech University in Ruston, Louisiana. How Do We Explore? Professional Development Workshop for Educators. The deadline for registration is May 25, 2016. Participants will receive classroom-ready lessons, certificates of participation, and other resources. Contact Stephanie Smith at educationprograms@auduboninstitute.org
<http://oceanexplorer.noaa.gov/edu/development/development.html>

RAE-TCS Summit Call for Proposals

The 8th National Summit on Coastal and Estuarine Restoration and the 25th Biennial Meeting of The Coastal Society will hold the RAE-TCS Summit, December 10-15, 2016 in New Orleans, Louisiana. The theme of the meeting is Our Coasts, Our Future, Our Choice. Cross-disciplinary proposals are encouraged. The proposal deadline for submission is May 2, 2016.
<https://www.estuaries.org/Summit>

Social Marketing Webinar - Online

The webinar from Open Channels, "To Target Everyone Is to Target No One": What Social Marketing Can Offer Conservation and Management, will review marketing techniques. The webinar will cover what social marketing is and isn't, what it offers to conservation and management practitioners, and examples of social marketing being used in a marine conservation context.
<https://www.openchannels.org/upcoming-events/webinar/target-everyone-target-no-one-what-social-marketing-can-offer>

Teacher Professional Development Institutes - California

The Monterey Bay Aquarium hosts free teacher professional development institutes for teams of full-time classroom teachers. A stipend may be available; check out the details for each program. Hurry - the deadline for application is March 8, 2016.
<http://www.montereybayaquarium.org/education/teacher-professional-development>

Youth Ocean Conservation Summit - Maryland

A Youth Ocean Conservation Summit will be held April 17, 2016 in Baltimore, Maryland. Youth participants will learn from marine scientists and conservationists about current threats facing marine ecosystems; will take part in workshops to learn to develop action plans for their own ocean conservation projects; and more. The deadline for application is April 1, 2016.
<http://aqua.org/learn/student-programs/youth-ocean-conservation-summit>

MESSAGE FROM THE BRIDGE

Bridge e-Updates

This month, the Bridge looks at how ocean temperatures effect global weather patterns. The El Niño Teaching Box, a K-12 resource developed by the UCAR Center for Science Education, combines readings and activities to build student understanding of changes that happen during El Niño events. The highlighted Bridge DATA Exercise, Cold One

Day, Warm Another?, investigates the relationship between wind and water temperature. Additional links are also featured.

<https://scied.ucar.edu/teaching-box/el-nino-southern-oscillation>

http://www2.vims.edu/bridge/DATA.cfm?Bridge_Location=archive1105.html

EDUCATIONAL RESOURCES

Ahead of the Tide

Ahead of the Tide is an independent movement launching a ten-part video series highlighting the effects of sea level rise and climate change through the stories and voices of local Floridians. Each short video (5-7 minutes) will showcase various aspects concerning sea level rise and will include interviews with scientists, politicians, educators, and others.

<http://aheadofthetide.org/>

Amphibian Alert! Curriculum

Amphibian Alert! aims to teach children, grades 2-5, what amphibians are and why amphibian population declines are important to scientists and communities throughout the world.

https://www.aza.org/uploadedFiles/Conservation/Commitments_and_Impacts/Amphibian_Conservation/Amphibian_Resources/AmphibianAlertCurriculum.pdf

Antarctica Melting

Antarctica Melting: A Story in Four Acts is an audio slideshow series that addresses the effects of global climate change on the polar region, as seen through the eyes of three scientists. The Bridge DATA Exercise highlighted is Satellites and Storms, investigating basic atmosphere-ocean interactions using satellites, along with data from buoys, ships and coastal observing stations.

<http://coseenow.net/antarctica/>

http://www2.vims.edu/bridge/DATA.cfm?Bridge_Location=archive1007.html

Changing Circumstances

Changing Circumstances: Looking at the Future of the Planet from Literacy through Photography, is a free curriculum for grades 5-8 that focuses on issues of global sustainability and humanity's changing relationship to the world around us, as well as the economic, social, and personal impacts of those changes. Image Galleries include Climate Change, Globalization of Natural Resources, and New Technology.

<http://www.literacythroughphotography.org/#!2016curriculum/c1hlo>

EcoLeaders Career Center

Throughout 2016, the EcoLeaders Career Center, hosted by the National Wildlife Federation, will celebrate the motivating stories and career accomplishments of young professionals making a difference in the conservation movement. The website will host 4-8 new stories each month, culminating in the first full group of 50 Inspirations in December.

<http://www.nwfecoleaders.org/careercenter>

EcoSTEM Resource Kits

The Captain Planet Foundation offers ecoSTEM® Kits designed to engage students in project-based learning. Each of the four kits (Earth, Energy, Water, Pollination) contains supplies for 32 students. Partial funding may be available – see the website for details.

<http://eeintennessee.org/resource/about.aspx?s=124049.0.0.37935>

El Niño Rapid Response Field Campaign

NOAA scientists and partners have embarked on a land, sea, and air campaign in the tropical Pacific to study the current El Niño and gather data in an effort to improve weather forecasts thousands of miles away. Multiple types of observing resources will collect measurements from the air, ocean, and ground between January and March of 2016. Follow along with the blogs, read about the missions, and more.

http://www.esrl.noaa.gov/psd/enso/rapid_response/

El Niño-Southern Oscillation

This new webpage from Climate.gov offers the latest El Niño updates and the outlook for the next few months. Check out the links to NOAA resources to learn more about El Niño and La Niña, read the ENSO blog for insights from experts, and more.

<https://www.climate.gov/enso>

Endangered Species Day

The 11th annual international Endangered Species Day, May 20, 2016, offers marine science, oceanography, biology, and other teachers an ideal opportunity to educate students about the importance of protecting threatened and endangered plant and animal species. List your activities, check out the teacher resources, and more.

<http://www.endangered.org/campaigns/endangered-species-day/>

Glacier Bay National Park Expedition Webinar – Online

NOAA's Office of Exploration and Research will host a webinar, March 15, 2016 on the Glacier Bay National Park Expedition. From March 17-30, 2016, explorers will focus on the central and east and west arms of Glacier Bay National Park and the unexplored remote fjords facing the outer Gulf of Alaska within the boundaries of the park.

Scientists will explore and map a variety of habitats, collect samples, and examine the genetics of previously collected coral samples. The 60-minute webinar will provide an introduction to the expedition and the associated education products. Check the website for information as it's posted.

<http://oceanexplorer.noaa.gov/oceanos/explorations/explorations.html>

Island Studies

Island Studies is meant to serve as an Internet repository of island-related research material. The journal, published twice each year, is posted online and a simple search function can be used to access article topics. Both extracts and full articles are available for the journal.

<http://www.islandstudies.ca/>

Killer Whale Virtual Field Trip

SeaWorld has launched a free, live video program that allows classes to dive into orca biology, questions, and careers. This virtual field trip, available on Skype and Google Hangouts, is a 30-minute, interactive call and Q & A session featuring SeaWorld's trainers and whales. Each session includes an interactive demonstration geared toward the specific school and their education level.

<https://seaworldparks.com/en/seaworld-orlando/educational-programs/live-from-shamu-stadium>

Living with a Changing Coast

The Living with a Changing Coast project is a European cross-channel project aimed at helping coastal communities to better understand and prepare for the impacts of climate change, including sea level rise and erosion on their coastline. Learning packs are available online, focusing on the Exe Estuary and Poole Harbour. From a quick glance, most inquiries could be easily adapted to local estuary studies. Check out the learning packs along with additional resources found here.

<http://www.licco.eu/resource-library/>

Library of Congress: Themed Resources

This set of Themed Resources from the Library of Congress includes topics Nature and the Environment, Science and Invention and more. Tied together by various threads of American history and culture, the resources feature images, text, and lesson plans. Most themed pages include primary sources, lesson plans, related exhibitions, collections, and a section for students.

<http://www.loc.gov/teachers/classroommaterials/themes/>

Lionfish Education Page

The Marine Aquarium Societies of North America (MASNA) and its volunteers offer this webpage on invasive Lionfish Education. It details the current invasive epidemic of Lionfish in Atlantic and Caribbean waterways.

<http://masna.org/masna-programs/lionfish-education/>

Marine Ecosystems and Management Newsletter and Events

The Marine Ecosystems and Management Newsletter (MEAM) will pair some of its articles with live online events, such as chats and webinars, providing additional opportunities for interactive discussion and knowledge sharing on critical topics. MEAM will work with OpenChannels.org and the EBM Tools Network to host these events. Subscribe to the newsletter and check out these opportunities.

<https://meam.openchannels.org/>

Marine Mammal Conservation

The Marine Mammal Commission website offers up-to-date information on science, policy, and management actions for marine mammal conservation. Watch the site for upcoming grant opportunities.

<http://www.mmc.gov/>

NASA Images

Luna Imaging specializes in turning archival materials into digital collections. They have aggregated more than 70 NASA image collections into a searchable resource with over 100,000 images. Categories include Planets, Earth, and more.

<http://nasaimages.lunaimaging.com/>

NSTA YouTube Channel

Check out the National Science Teachers Association postings on YouTube. Watch videos about Next Generation Science Standards, the Learning Portal, and much more.

<https://www.youtube.com/user/NatSciTeachAssoc>

Ocean Sciences Curriculum Sequences

The Ocean Sciences Curriculum Sequences from the Lawrence Hall of Science's MARE (Marine Activities, Resources & Education) program are in-depth, kit-based curriculum units that deliver science content correlated to the Next Generation Science Standards (NGSS), with an emphasis on the Practices of Science as called for in NGSS and the Framework for Science Education K–12, with significant overlap with the Common Core State Standards for English Language Arts. The curriculum provides numerous opportunities for students to engage in investigations and make evidence-based explanations. Be sure to check out the Teacher Guides to Marine Habitats and much more.

<http://mare.lawrencehallofscience.org/curriculum/ocean-science-sequence>

Ocean Science Education Newsletter from the NOAA Office of Ocean Exploration and Research

Sign up for the new NOAA Ocean Explorer education newsletter. This education email list offers a monthly newsletter filled with ocean exploration highlights, as well as updates about professional development opportunities, webinars, and more.

http://oceanexplorer.noaa.gov/backmatter/email_update.html#educators

Ocean Today Videos

The short Ocean Today videos are available for free download in two different sizes, depending on your needs. Be sure to check back periodically as new videos are added. Check out the different categories, including research, fishing, exploration, and more.

<http://oceantoday.noaa.gov/>

Oil Spill Science Publications and Presentations

The Gulf of Mexico Sea Grant program offers the Oil Spill Science Outreach Program with downloadable publications and a series of webinars that can be viewed live or downloaded as archived files. Sign up to be informed about upcoming seminars. New publications address dispersants, oil on beaches, and more.

<https://gulfseagrants.wordpress.com/oilspilloutreach/>

Online Ocean Symposium

The Online Ocean Symposium aims to increase and expand attention to the oceans through the use of Google+ Hangouts on Air for conversations in ocean advocacy and science. Check the website for previous hangouts, and watch for upcoming events.

<http://www.onlineoceansymposium.org/>

Special Days for EE

This downloadable calendar identifies special days set aside for environmental education through July, 2016, while the web page goes through December.

International Mud Day, anyone?

<http://eeingeorgia.org/resource/about.aspx?s=16215.0.0.4863>

Sharks4Kids

The goal of Sharks4Kids is to create shark advocates through a dynamic range of educational materials. Materials include curriculum, games and activities, multimedia, and more. Sharks4Kids will also fund first hand experiences for students in the South Florida area as well as coordinating classroom visits across the country. Check out Skype sessions, grade-level teacher resources, and much more.

<http://sharks4kids.com/>

Teaching Boxes

Teaching boxes are free, online classroom-ready instructional units created by a collaboration between teachers, scientists, and designers. Each box helps to bridge the gap between educational resources and how to implement them in the classroom. The Teaching Boxes contain materials that model scientific inquiry, allowing teachers to build classroom experiences around data collection and analysis. Topics include weather, plate tectonics, changing sea level, and more.

<http://teachingboxes.org/>

To Make an Archipelago

In this standards-based lesson from NOAA's Office of Exploration, To Make an Archipelago (Grades 6-8), students explore eight stages in the formation of islands in the Hawaiian Archipelago, and how hotspot activity and tectonic plate movement can produce the arrangement of seamounts observed in the Hawaiian Archipelago.

<http://oceanexplorer.noaa.gov/oceanos/explorations/ex1504/background/edu/archipelago.pdf>

Turtle Tracks Virtual Field Trip

Invite Florida Oceanographic's Education Staff into your middle or high school classroom (grades 5-12) for a live, interactive, virtual field trip focused on sea turtle biology and conservation. Note that virtual field trip date/time slots are extremely limited; contact them for availability.

<http://www.floridaocean.org/p/264/virtual-field-trip-program#.Vsy4ROZ8nBB>

Virtual Tour of Pu'uuhonua o Honaunau National Historical Park

Pu'uuhonua o Honaunau National Historic Park and the Historic American Landscapes Survey offer a virtual tour of Pu'uuhonua o Honaunau. The Pu'uuhonua o Honaunau is an important Hawaiian ceremonial site bounded on its southern and eastern sides by a massive L-shaped wall, and on its northern and western sides by the ocean. It was a place of refuge.

http://www.nps.gov/hdp/exhibits/puho/PUHO_Tour.html

World Climate: Climate Change Negotiations Game

This simulation provides scenarios for exploring the principles of climate dynamics from a multi-disciplinary perspective. Inter-connections among climate issues, public stakeholders, and the governance spheres are investigated through creative simulations designed to support learners' understanding of international climate change negotiations. Also, check out more simplified simulations such as the Climate Bathtub Animation or the Greenhouse Gas Emissions Simulator.

<https://www.climateinteractive.org/programs/world-climate/>

<http://scripts.mit.edu/~jsterman/climate/master/>

<http://www.climateinteractive.org/tools/climate-bathtub-simulation/>

A Year of Weather

This visualization, comprised of imagery from geostationary satellites, shows an entire year of weather across the globe during 2015 and includes audio commentary. Watch the desert and rain forest region patterns.

<https://www.youtube.com/watch?v=i4mBYwBNULk>

INITIATIVES, JOURNALS, and MORE

California Extreme Weather Monitoring

Coastal Resilience is recruiting volunteers in California to help monitor how extreme weather events impact coastal ecosystems. Use your smart phone or drone to take pictures of higher than normal water levels, coastal landslides or other erosional events, or damage caused by floods or landslides. Coastal Resilience will use images submitted by volunteers to produce open source maps of inundation areas, erosion events, and property damage.

<http://coastalresilience.org/project-areas/california/el-nino-california/>

Connected Science Learning

Connected Science Learning is a new, free e-journal from NSTA bridging the worlds of formal and informal science education. The first issue will be launched in March.

<http://www.nsta.org/publications/csl/>

Weekly Volunteer Workdays - Texas

Artist Boat is hosting weekly volunteer workdays at the Coastal Heritage Preserve. Throughout the next few months, there will be a wide variety of different volunteer tasks; choose what interests you. Each workday is about four hours long, and includes a private, hour-long guided tour of the reserve along with breakfast or lunch. The first 50 volunteers will receive a free four hour guided kayak adventure in April.

<http://www.artistboat.org/volunteer-workdays.html>